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ABSTRACT

In an effort to examine the hierarchical relations in the development of discourse topics, the narrative-descriptive essays of 55 university freshmen were analyzed in terms of L. Lautamatti's five sentence types. In type 1, the initial element is in the position of the grammatical subject, and is the topical subject. In type 2, the topical and grammatical subject is preceded by an initial sentence element. In type 3, the initial element is also in the position of the grammatical subject, but the topical subject is elsewhere. In type 4, the topical subject occurs in the initial sentence element, while the grammatical subject follows. In the last pattern, type 5, the initial element, the grammatical subject, and the topical subject are all separate. All types are measured as t-units. Results showed that type 1 sentences comprised nearly half of all the t-units in the high and low rated essays. Type 2 t-units, in which the initial element differs from the grammatical and topical subject, comprised roughly one-fifth of the t-units in all the essays, the low rated group using slightly more than the high. Type 3 was produced slightly more than type 2, and type 5 t-units occurred more than twice as often in the high rated and five times more frequently in the low rated essays as type 4. Although the t-units of type 4 occurred relatively infrequently in all of the essays, they appeared nearly three times as often in the high group as in the low. (HOD)

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TOPICAL DEVELOPMENT IN THE NARRATIVE/DESCRIPTIVE ESSAYS OF COLLEGE FRESHMEN

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For many years, writing researchers have been interested in those internal features of written texts which can be used to distinguish between writers of different age and ability levels, between texts of different types, and between texts rated high or low in overall quality. Several studies in recent years have either directly or indirectly examined overall writing quality in terms of internal features. Except for the occasional use of gross measures of text length, these studies have examined features confined to the sentence, employing such measures as mean clause, t-unit, or sentence length and mean frequency of embeddings such as prepositional phrases or nonrestrictive modifiers. Several studies (e.g., Nold and Freedman, 1977; Faigley, 1979; Witte, 1980; Witte and Faigley, 1981a, 1981b) have, however, indicated that syntactic features alone are not very strong predictors of writing quality. As a consequence, some writing researchers (Witte, 1980; Nold and Davis, 1980; Witte and Faigley, 1981a, 1981b) have begun to examine internal features that extend across sentence boundaries. For the most part, these features are semantic rather than syntactic in nature and are used, to a greater or lesser extent, in attempts to identify what may be called semantic hierarchies in texts and to specify the relationships within those hierarchies.

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One promising line of inquiry derives from Lautamatti's study (1978) of topical development in simplified texts for non-native speakers of English, a direction of research Witte (1981) pursued in his investigation of the simplified texts of three groups of college writers. This research is concerned with the development of discourse topics in extended texts, a discourse topic being roughly equivalent to what Kintsch and van Dijk (1978) speak of as the proposition located at the highest level in the semantic hierarchy of a text. The development of the discourse topic in an extended text can thus be viewed in terms of "hierarchically ordered subtopics, each of which contributes to the discourse topic" (Lautamatti, 1978). According to Lautamatti, such hierarchical relations can be seen as topical progression in a text, either parallel, as when the subtopic in a number of sentences is the same, or sequential, when the rhematic (predicate) portion of one sentence provides the topic for the next. Lautamatti also identifies five types of sentences on the basis of where the topical subjects of sentences, which carry the discourse topic through the text, occur with relation to grammatical subjects and initial sentence elements. The present study examines these features, that is, the development of the discourse topic and its subtopics and the occurrence of the five sentence (in this study, t-unit) patterns and of parallel and sequential progressions in the high- and low-rated essays of college freshmen.

Distinguishing among Lautamatti's five sentence types depends upon the previous identification of the topical

subject of each t-unit, a process requiring understanding of the text as a whole. Let us assume, for example, that "escaping from reality" is the topical subject of these sentences:

Type 1. Escaping from reality is a natural function.

Type 2. In today's society, escaping from reality is the only way a person can be the best.

Type 3. There is nothing unhealthy about escaping from reality.

Type 4. Without escape from reality, our lives would be extremely routine.

Type 5. Actually, I believe that escaping from reality is beneficial to our society.

In Type 1 the phrase "escaping from reality" is the initial element [IE] of the sentence, is in the position of the grammatical subject [GS] (Lautamatti calls this the "mood subject"), and is the topical subject [TS]. Thus, in Type 1 t-units the three elements are the same.

Type 1. IE=GS=TS

In Type 2, "escaping from reality" is the topical and grammatical subject, but is preceded by an initial sentence element, the phrase "in today's society."

Type 2. IE≠GS=TS

In Type 3, the initial element "there" is also in the position of the grammatical subject, but the topical subject is

elsewhere.

Type 3. IE=GS≠TS

In Type 4, the topical subject occurs in the initial sentence element, the prepositional phrase "without escape from reality," while the grammatical subject follows.

Type 4. IE=TS≠GS

In the last pattern, Type 5, the initial element "actually," the grammatical subject, and the topical subject are all separate.

Type 5. IE≠GS≠TS

In this study, we used fifty-five narrative-descriptive essays written on a controlled subject by freshmen at the University of Texas at Austin. The essays are the top 29 and the bottom 26 from a total of 180 which were holistically rated. The high group averaged 458 words per essay (s.d. 122), the low 355 (s.d. 116). This difference, incidentally, was significant at the .002 level.

After determining the number of words, clauses, and t-units in each essay, we analyzed the papers in terms of Lautamatti's five patterns, counting the number of t-units that fell in each classification. We also counted the number of sub-topics and the repetitions of topics and sub-topics in each essay.

The mean t-unit length of the low-rated essays was 14.66 words and of the high group 15.23, while mean clause

length was 9.28 and 9.37, respectively. We also calculated the mean percentage of t-units with final non-restrictive modifiers (Christensen's variation) and found the low essays to average 8.2%, the high 6.1%. None of these differences was statistically significant.

RESULTS

The two sets of essays were remarkably close in their use of four of the five types of topical structures. The Type 1 (IE=GS=TS) pattern comprised 49.5% of the t-units in the low essays (s.d. 0.16) and 48.2% in the high (s.d. 0.11); the Type 2 pattern (IE≠GS=TS) occurred in 20.9% of the low essays (s.d. 0.09) and 17% of the high (s.d. 0.11); the low essays had 19.7% of Type 3 (IE=GS≠TS) with a s.d. of 0.11, the high 19.6% (s.d. 0.08); and Type 5 (IE≠GS≠TS) occurred in 8.2% of the low (s.d. 0.07) and 11% of the high (s.d. .07). None of these differences was statistically significant. The Type 4 (IE=TS≠GS) pattern, however, occurred in 1.6% (s.d. 0.04) of the t-units in the low essays and in 4.3% of the high, and the difference was significant at the .022 level.

The mean number of t-units per sub-topic in the low essays was 1.97 (s.d. 0.55) and in the high group 2.32 (s.d. 0.80). This difference approached statistical significance at .058. The mean number of clauses per topic was 3.14 in the low essays and 3.88 in the high, of words per topic 27.42 (s.d. 7.10) and 35.70 (s.d. 11.73), respectively. The latter difference was significant at the .02 level.

We also calculated the mean percentage of the total

		(N=55) All Essays		(N=26) Low Essays		(N=29) High Essays	
		x	s.d.	x	s.d.	x	s.d.
1.	Words/t-units	14.83	3.29	14.38	3.66	15.23	2.92
2.	Words/Clause	9.32	1.89	9.28	2.25	9.37	1.51
3.	% t-units with final non-restricted modifiers	7.1	0.08	8.2	0.10	6.1	0.07
4.	Words/topic	31.79	13.63	27.42	7.10	35.70	11.73
5.	Disc. Topic as % of Topics	8.5	0.04	8.7	0.04	8.2	0.04
6.	Disc. Topic TUs as % of TUs	18.9	0.13	15.1	0.12	22.3	0.13
7.	% Type 1 TUs	48.8	0.14	49.5	0.16	48.2	0.11
8.	% Type 2 TUs	18.9	0.10	20.9	0.09	17.0	0.11
9.	% Type 3 TUs	19.6	0.09	19.7	0.11	19.6	0.08
10.	% Type 4 TUs	3.0	0.04	1.6	0.04	4.3	0.04
11.	% Type 5 TUs	9.7	0.07	8.2	0.07	11.0	0.07
12.	T-units/topic	2.16	0.71	1.97	0.55	2.32	0.80
13.	% TUs in parallel progressions	13.9	0.11	12.2	0.10	15.5	0.11
14.	% TUs in extended parallel progressions	53.7	0.15	51.1	0.18	56.1	0.13
15.	% non-repeated topics	61.6	0.16	65.0	0.16	58.6	0.17
16.	% non-repeated topics in sequence	63.4	0.28	68.8	0.28	58.6	0.28
17.	% non-rep. topics not in sequence	23.3	0.10	25.3	0.11	21.5	0.10
18.	Clauses/topic	3.53	1.59	3.14	1.17	3.88	1.84
19.	% TUs before disc. topic	11.2	2.3	16.9	2.9	6.0	0.15
20.	% topics before discourse topic	12.4	2.3	18.5	2.9	6.9	0.16

Table 1. Means and standard deviations for all computed variables in high and low essays taken from 180 holistically rated essays.

number of different topics (the discourse topic plus subtopics) in each essay which was represented by the discourse topic, that is, the topic at the highest semantic level, and found this figure to be 8.7% (s.d. 0.04) in the low essays and 8.2% (s.d. 0.04) in the high. The top level topic, on the other hand, accounted for a mean of 15.1% of the t-units in the low essays and 22.3% in the high group, a difference significant at the .04 level.

We calculated the frequency of the types of topical progression, but found no statistically significant differences. Mean percentage of the total t-units occurring in parallel progression was 12.2% in the low group, 15.5% in the high, and of total t-units in extended parallel progression, 51.1% in the low, 56.1% in the high. There were slightly more subtopics which were not repeated in the low group, 65% as opposed to 58.6%, and more non-repeated subtopics occurred in succession in the low essays, 68.8% than in the high, 58.6%.

We computed two further variables, the mean percentage of t-units occurring before the t-unit carrying the highest level topic (16.9%) in the low essays and 6% in the high) and the mean percentage of topics appearing before the highest level topic in each essay (low, 18.5%; high, 6.9%). The difference in the second variable approached negative significance at .077.

To summarize: three of the variables we considered, the number of words per topic, percentage of Type 4 t-units,

and the percentage of t-units accounted for by the top level topic, were statistically significant at the .05 level or better (.02, .022, and .04, respectively). Two others approached significant levels, the number of t-units per topic (.058) and the percentage of topics appearing before the highest level topic (.077 [negative]).[2]

DISCUSSION

In both the high-and low-rated essays of this study, t-units of the kind Lautamatti refers to as often "used as evidence in discussions on the relationship of subject and topic," that is, those in which the initial element, grammatical subject, and topical subject are the same, comprise nearly half of all the t-units in the essays. The heavy use of this pattern, Type 1 in Lautamatti's formulation, seems understandable: syntactically, it is by definition the simplest to write, since there can be no elements ahead of the grammatical subject and no dummy subject (as in this clause). Often, as in these examples from our study, the element combining the three features is the only noun phrase in the sentence:

> The world of reality can be crucial.
> The escapes are either conscious or subconscious.
> Escaping reality is a necessity.

The first t-unit in twenty of the twenty-nine essays in the high-rated group, 69%, is a Type 1; eleven of the low-rated essays, 42%, begin with it. Occurring as often as twelve

times in succession in the low-rated essays, it seems to be the basic pattern, the least ornamented, least complex, and therefore the most direct.

Type 2 t-units, in which the initial element differs from the grammatical and topical subject, which coincide, comprised roughly one-fifth of the t-units in all the essays, the low-rated group using slightly more than the high. The Type 2 pattern appeared in all of the low-rated essays and in all but two of the high group, indicating that these writers use it with ease.

The types of linguistic material in the initial elements of the type 2 group illustrated well Lautamatti's division into topical and non-topical material, the non-topical consisting of six sub-types: discourse connectives (however, consequently), illocution markers (for example), modality or truth markers (obviously, it seems probable), attitude markers (I would like to . . .), metatextual markers (In later chapters I will . . .), and commentary (material telling the reader what or how to read). All of these sub-types appeared in the essays, discourse connectives and modality markers most frequently. About one-third of the initial elements were topically related. The student writers seemed least comfortable with metatextual markers and commentary.

Although Lautamatti suggests that type 3 (IE=GS≠TS) as well as 4 and 5 is a more difficult pattern than types 1 and 2 because the grammatical and topical subjects do not coincide, the writers in our study actually produced slightly more

type 3 t-units than type 2. Of the 55 essays, only one, in the low group, did not contain at least one type 3 pattern. Both variations of type 3 as suggested by Lautamatti appeared frequently; 3a, defined as having a dummy grammatical subject with the main clause representing topical material, was illustrated in examples such as "It is human nature to escape from reality," as was 3b, in which "the initial main clause is non-topical, while the topical subject appears in a following sub-clause": "This example shows that fantasizing gets you through the hard times. . . ." We also identified other variants of the type 3 pattern such as t-units in which the initial element-grammatical subject was an indefinite pronoun or a noun which was semantically as vague as an indefinite pronoun, as in "Many people wonder what would happen if one didn't excape to this fantasy world" or "You could say that fantasizing is a kind of hope," where you functions like an indefinite pronoun. Still another variant appears in sentences with copulative verbs in which the grammatical subject is a semantically vague class, the complement a semantically clear member of that class, as in "Another means is drugs." As in Lautamatti's 3a example, many of the type 3's with dummy subjects had a connective function, summarizing a previous idea and linking it with the following topical subject. The grammatical subjects in the examples in our study of the "You could say" pattern above served as modality or attitude markers modifying the comment being made about the topical subject in the subordinate clause. Lautamatti

also notes that the main clause in her type 3b functions as a modality marker.

Of the five patterns, Lautamatti considers type 5 (IE≠GS≠TS) to be the most complex, making "possible a more varied interplay of discourse materials than the others." In fact, however, we found type 5 t-units occurring more than twice as often in the high essays and five times more frequently in the low as type 4 (IE=TS≠GS), a fact which may imply that student writers either find the pattern so difficult to construct that they avoid it, or they choose not to use it for some other reason. The type 5 pattern, however, appeared to present no difficulty to most of the writers. It was used at least once in nineteen (73%) of the low essays and in twenty-six (90%) of the high essays. Interestingly, this pattern occurred as the last t-unit in ten (34%) of the high essays, leading one to suspect that it lends itself to concluding or summarizing statements. These examples confirm that suspicion:

> Whether a person admits to escaping reality or not, this type of event will be forever a part of our society.
>
> Of course the most useful is the one [escape from reality] which is relevant to the thinker's life and constructive to it also.

Despite the first- and third-person mixing and the incomplete logical relationship between the subordinate and main clauses, the first example achieves the sound of a concluding statement through the conditional clause with the topical

subject as its complement and the main clause with its sweeping comment about the grammatical subject, which is a semantically generalized synonym for the topical subject. The second example refers to various "escapes" discussed earlier, gains rhetorical force through the elision in the adjectival phrase used as grammatical subject and the subject-complement inversion, and makes a complex summarizing statement about the topical subject. Despite its complexity, the type 5 pattern seems to pose no problem for beginning college writers.

The same apparently may not be said for type 4. Although t-units with this pattern occur relatively infrequently in all the essays, they appear nearly three times as often in the high group as in the low, a difference which is statistically significant. Type 4 t-units occur in 18 (62%) of the high essays, in only five (19%) of the low.

Since none of the essays which used the pattern had more than four occurrences, it would appear that it has special functions within a text. Lautamatti's examples have "the topical subject in an initial subclause, with a cohesive anaphoric pronoun as the mood subject." She suggests that the pattern introduces or changes the topical subject, but while we found it in topic sentences such as "If this desire to flee reality is so common then why hasn't somebody put it on the market?' in which the IE is a conditional clause with its subject the topical subject, we also found the pattern used as the concluding sentence--"Even though fantasy worlds

may be insane, they are what keep people sane"--as well as in developmental sentences within narrative paragraphs: "Although I was upset and hyperactive before my 'escape,' I soon became calm, collected. . . ." Generally, the examples of type 4 which we found had, as in Lautamatti's examples, the topical subject in an introductory clause and the TS then repeated as an anaphoric pronoun in the main clause. If this was not the pattern, then the t-unit usually contained a broad generalization with vaguely synonymous nouns in the subject slots, as in "When people stop trying to better themselves the world will stop changing."

Why does the type 4 pattern occur so infrequently in the low essays and in fact considerably less often than the other types in the high group? We suggest that the key word in Lautamatti's description of type 4 is "cohesive," and that the difference is related to the broader problem of cohesion in general in student writing. Those type 4 t-units in the essays which were the best formed stylistically were also perhaps the best examples of cohesiveness in that, through their anaphoric clause and subclause subjects, often parallel verbs, and semantically related predicates (note "sane" vs. "insane" and "upset and hyperactive" vs. "calm, collected" in the examples above), they exemplify the kind of tight semantic bonds that weak essays seldom achieve either within or without sentences. The point is not so much that some writers may have difficulty writing type 4 t-units, but that such a weakness is perhaps symptomatic of a more general

inability to develop, say, topics at the paragraph level, where, after the topic sentence and developmental sentence A, weaker writers are sometimes at a loss to make cohesive subtopic statements B, C, D, and so on--a process akin to the production of the type 4 pattern.

Some of the variables which we measured appear to us to be fairly straightforward indicators of development and cohesiveness. Among these are the differences in the mean number of t-units per subtopic (1.97 for the low group, 2.32 for the high), clauses per subtopic (3.14 vs. 3.88), and words per subtopic (27.42, 35.70), the latter being significant at .02, the t-unit measure close at .058. These differences all point to what experienced writing teachers know from daily observation: better writers will have more to say about any given topic. If more t-units, clauses, and words are devoted to a subtopic, the odds are that its relationship to the discourse topic will be clearer and that development at each organizational level will be better.

The fact that the mean percentage of the total number of different topics in each essay which was represented by the discourse topic was higher in the low essays (8.7% vs. 8.2%) is a bit misleading. One must remember that the high essays averaged 103 words longer, or more than seven t-units, so that the average high essay developed about three more subtopics than the low essays, thus lowering the relative percentage of occurrences of the discourse topic. The percentage of total t-units devoted to the discourse topic, however, tells a different--and statistically significant--story: the discourse topic appeared in more than 1/5 of the t-units

in the high group (22.3%), in less than 1/6 in the low (15.1%). Again, the difference points to what teachers have known at least intuitively, if they had no quantitative proof: one of the ways the better writer achieves cohesion is by returning again and again to his discourse topic as the essay develops, making sure that the relationship of each subtopic to the discourse topic is clear.

A related observation probably can be made about the directness with which the writer presents the discourse topic--more simply put, "how soon?" In the average low essay, almost 17% of all the t-units occurred before the t-unit with the discourse topic, in the high group, only 6%; in the low essays, 18.5% of the subtopics appeared before the discourse topic, in the high essays 6.9%, a difference approaching negative significance at .077. The point seems to be that the sooner the essay writer announces exactly what he is writing about, the more likely he is to achieve cohesion--and a better grade.

We found little difference in the occurrence of parallel progression, that is, of the same subtopic appearing in one or more succeeding t-units, in the essays: the low group had 12.2% and the high 15.5%. Again, however, the difference points to more cohesion in the higher-rated essays, to writers devoting a few more words to a subtopic before they leave it. The low group had 51.1% of the t-units in extended parallel progression (t-units in which a subtopic introduced earlier reappears after intervening subtopics), the high group 56.1%.

The difference, though not large, suggests more awareness of subtopic relationships on the part of the better writers as well as of the need for cohesion-producing repetition. Conversely, as one might expect, non-repeated topics occurred more often in the low essays both in succession and not in succession, so that subtopics which were both undeveloped and less likely to be related to other topics were more frequent occurrences in the low essays.

LIMITATIONS AND IMPLICATIONS OF THIS STUDY

Although, as Lautamatti has suggested, further refinement of the five sentence types will probably be necessary as analyses of various kinds of text are made, it appears from this study that these measures may be very useful to the composition researcher in the determination of quantitative differences between essays of high and low quality. Further research may well also find these measures to be useful in quantifying differences among various rhetorical modes as well of age differences. An extremely low percentage of Type 4 t-units, for example, may prove to be a characteristic of narrative-descriptive essays; some rhetorical modes may be more conducive to parallel topical progressions than others.

Some of the variables used in this study appear to be specific measures of essay qualities which have traditionally been referred to by the rather nebulous terms development and cohesion. The "words per topic" differential, for example (significant at .02), and the "t-units per topic" variable

both seem to be direct indicators of topical development at the lowest level of the semantic hierarchy in a text. The variable "discourse topic t-unit as a percentage of t-units" (significant in our study at .04) would appear to be an indicator of both development at the discourse level and of cohesion in the text. With regard to cohesion, further study of distribution patterns of the discourse topic (beyond our variables "percentage of t-units before the discourse topic" and "percentage of topics before the discourse topic") will probably be useful.

If future studies of this type are initiated, some agreement among researchers about methodology will be necessary if the results are to be reliable. For example, Lautamatti's five types are not adequate to cover all the possible variations that occur in student writing; in fact, they do not make provision for such simple syntactic variations as questions or compound subjects (or compound complements, when the complement carries the topical subject). Additionally, her formulation seems based on the asusmption that topical subjects always occur in noun phrases, when, in fact, as far as we are concerned, such is not always the case: a verb may well be the only unit in a sentence with topical content. Also, in identifying subtopics we had considerable difficulty with nouns such as "people" which are often used much like indefinite pronouns: suppose "people" is the topical subject of one t-unit, then "other people" appears in the succeeding t-unit, then "older people," "younger people," "some people," etc.--when is the topic new, when repeated, and when

should one be realistic and deny its existence as a topic at all? These and numerous other problems came up as we applied the formulation to the essays, but we should add that, in general, we felt that Lautamatti's patterns worked well and that their application in composition research would be a useful and significant contribution.

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